

REMARKS

Claims 1-18 are currently pending. The following addresses the substance of the Office Action.

Nonstatutory Double Patenting

Claims 1-18 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending, currently commonly owned Application No. 10/578,796, which has the same inventive entity as the instant application. As neither application is yet in condition for allowance, Applicants request that the Examiner hold this double patenting rejection in abeyance until such time as either Application No. 10/578,796 or the present application is otherwise in condition for allowance.

Anticipation

Claims 1-3, 5, 9-11, 13-14 and 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Fischer et al. (WO 01/088434).

Fischer et al. describes compositions for the galvanic deposition of aluminum, magnesium and their alloys. According to the reference, a base metal to be electroplated can be subjected to a pre-treatment step which prepares the base metal for the process of plating by removing any non-base metal impurities from the base metal (page 2, lines 28-29). In contrast, the presently claimed invention relates to coated workpieces comprising a substrate, an intermediate metallic layer coated on said substrate and a layer coated onto said intermediate layer, which includes an aluminum/magnesium alloy, as well as a method for the production thereof.

Referring to Fisher et al., page 3, lines 22-24, the Examiner concluded that Fischer et al. teaches a coated workpiece comprising a base metal substrate, an intermediate nickel metallic layer and an aluminum/magnesium alloy surface coating. However, according to Fisher et al., if plating with nickel is selected as a pre-treatment step, a subsequent activation step is necessary (page 3, lines 25-30). Fischer et al. discloses that, nickel plated base metal proceeds to an activation bath, which may contain an inorganic acid such as hydrofluoric acid. Upon contact with nickel, hydrofluoric acid would react to form nickel fluoride. Thus, the base metal would

no longer be coated with a layer of metallic nickel during subsequent plating with aluminum and/or magnesium. Moreover, Fisher et al. states that the composition of the activation bath must be compatible with the base metal. Such compatibility is important for when activation bath comes in contact with the base metal during the activation procedure. Referring to Fisher et al. page 3, last paragraph – page 4, second full paragraph, the reference indicates that, following treatment in the activation bath, only “activated base metal” or “base metal” is present (i.e., no intermediate metal layer or “nickel-plated base metal” remains). Indeed, Fischer et al. discloses at page 6, line 14, conditions during subsequent pulse reverse electroplating that result in one layer of aluminum atoms being put onto the base metal (not onto an intermediate layer). If the intermediate layer was still present on the base metal, direct plating onto the base metal would not be possible.

In summary, Fischer et al. is not related to a workpiece comprising a substrate, an intermediate layer coated on said substrate and a layer coated on said intermediate layer. A nickel layer may be temporarily present during a pretreatment step as disclosed by Fischer et al., but it is not present as an intermediate layer in the finished workpiece. Accordingly, the subject-matter of independent Claims 1 and 10, and dependent claims thereof is novel over Fischer et al.

In view of the preceding remarks, the Applicants respectfully request removal of the rejection under 35 U.S.C. § 102(b).

Obviousness

Claims 4, 6-8, 12 and 15-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischer et al. (*supra*). The Examiner stated that Fisher teaches the presently claimed invention but is silent regarding some of the claim limitations. However, as indicated above, Fisher et al. does not relate to a workpiece comprising a substrate, an intermediate layer coated on said substrate and a layer coated on said intermediate layer. As discussed above, a nickel coating according to Fischer et al. is present only temporarily where it functions in pre-treating the workpiece to remove impurities before electroplating the item.

One object of the presently claimed invention is to provide workpieces that comprise an adhesion-promoting intermediate metallic layer that is interposed between the workpiece and a corrosion-reducing layer of aluminum/magnesium alloy. Such workpieces exhibit an improved corrosion-resistance towards corrosion, especially contact corrosion.

In addition to improving the corrosion resistance of the workpiece, the intermediate layer surprisingly also improves the adhesion of the substrate and the aluminum/magnesium layer as well as the flexibility of the coating (page 7, paragraph 33). This is even more surprising since surface layers of aluminum/magnesium alloys are usually very hard, brittle and sparingly ductile. Accordingly, the subject-matter of the present invention was not obvious to a person skilled in the art from the teaching of Fischer et al.

With respect to Claims 4 and 17, the Examiner stated that, although Fischer et al. does not recite a specific material for use as the substrate, it teaches that any base may be used. Thus, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to utilize any number of substrate materials, including the metal materials such as iron and steel with a reasonable expectation of success. However, it should be noted that magnesium is very prone to corrosion, especially when coming into contact with steel or galvanized steel. Thus, it would not have been obvious to a person skilled in the art to coat iron, steel, or iron alloy base metals with an aluminum/magnesium coating. Fischer et al. does not even refer to a particular base metal. Instead, the reference states at page 2 in lines 25-27 that, as a base material, any material (not necessarily made of metal) can be used that can be coated with aluminum, magnesium or their alloys.

With respect to the objections raised regarding Claims 6 and 8, the Examiner states that it would have been within the purview of one of ordinary skill in the art to have selected thicknesses for the recited layers. However, Fischer et al. does not even disclose an intermediate layer in a finished workpiece.

With respect to Claim 7, the Examiner is of the opinion that an aluminum/magnesium alloy with a magnesium content in the range of 0.5-70 wt-% would have been obvious to a person skilled in the art. The Applicants wish to point out that, due to the very negative potential of magnesium, a person skilled in the art would have concluded that the risk of self-corrosion as well as contact-corrosion rises with increased magnesium content.

With respect to Claims 12, 15 and 16 being related to the step of coating the base metal with an intermediate metal, the Examiner is of the opinion that the subject matter of these claims would have been obvious in light of Fischer et al. However, as discussed above, Fisher et al.

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does not relate to finished workpieces comprising an intermediate layer. Accordingly, the claims are not obvious over Fisher et al.

In view of the preceding remarks, the Applicants respectfully request removal of the rejections under 35 U.S.C. § 103(a).

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

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Co-Pending Applications of Assignee

Applicant wishes to draw the Examiner's attention to the following co-pending applications of the present application's assignee.

Docket No.	Serial No.	Title	Filed
FLGDK21.001APC	10/514041	METHOD FOR PRODUCING ORGANOALUMINUM COMPLEXES AND THE USE THEREOF FOR PRODUCING ELECTROLYTE SOLUTIONS FOR THE ELECTROCHEMICAL DEPOSITION OF ALUMINUM-MAGNESIUM ALLOYS	05-Jul-2005
FLGDK21.003APC	10/528125	METHOD FOR ELECTROLYTIC COATING OF MATERIALS WITH ALUMINUM, MAGNESIUM OR ALUMINUM AND MAGNESIUM ALLOYS	21-Nov-2005
FLGDK21.006APC	10/573519	ELECTROLYTE FOR THE GALVANIC DEPOSITION OF ALUMINUM-MAGNESIUM ALLOYS	31-Jan-2007
FLGDK21.008APC	10/578796	COATING OF SUBSTRATES	10-Apr-2007

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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